ABSTRACT

Methods, systems, frameworks and software products are disclosed for metadata definition of data mappings and automatic integrity enforcement and transfer of data at runtime between inputs and outputs of two or more connected software services, including but not limited to "Web Services", software components, or between said entities and programming constructs. The disclosed invention provides a high performance and scalable system for storing data associated to any well-defined, complex data type with plurality. A technique for capturing the mapping description between data elements of many optionally nested data structures with or without plurality is disclosed. A method and system, based on the said description, for storing the data associated to the said well-defined but arbitrary structures in embedded arrays of lookup tables with a unique addressing scheme is used for automatic data transfer, data transformation, and data integrity enforcement at runtime.